

*Observations of Jupiter's Satellites made at the Stonyhurst Observatory. By the Rev. S. J. Perry, D.Sc., F.R.S.*

	Sat.	Phenomena.	G. M. T. h m s	Corr. to N. A. 9 48 17.3	Observer. S. J. P.	Remarks.
1886, April 11	III.	Tr. Ingress, ext. cont. bisection	9 51 47.6		" " "	Definition fair.
		int. cont.	9 55 48.8			
		Tr. Egress, int. cont. bisection	12 34 50.6			
29	III.	12 37 16.1			W. C.	Sky covered with thin clouds.
		ext. cont.	12 40 49.1			
		Occ. Reapp. bisection last cont.	9 21 31.8			
III.	III.	0 24 52.3			" " "	Very unsteady.
		Ec. Disapp. $\frac{1}{2}$ light v. faint	9 59 23.5			
		last seen	10 2 15.8	m s		
III.	III.	10 3 23.3	+ 4 23.3		S. J. P.	Good. Boiling. .
		Ec. Reapp. first seen	12 40 53.4			
		$\frac{1}{2}$ light full light	12 44 56.9	- 0 29.6		
30	IV.	12 49 6.9			W. C.	Good. Compared with I.
		Occ. Reapp. first seen bisection	9 55 26.8			
		10 4 27.8				
		last cont.	10 13 8.9			

			Phenomena.	G. M. T. h m s	Corr. to N. A. m s	Observer. W. C.	Remarks.
May 6	III.	sat.	Oc. Reapp. bisection last cont.	12 50 43.5 12 55 24.0	m s	"	
	III.		Ec. Dissapp. last seen	13 58 16.5	+0 21.5	"	
	III.		Oc. Dissapp. first cont. bisection	9 55 3.5 9 58 43.5	"	"	
			last cont.	10 2 30.5	"	"	
June 5	II.		Ec. Reapp. first seen full light	12 13 41.5 12 17 10	+0 15.5 "	"	
	II.		Oc. Reapp. bisection last. cont.	17 1 5.8 17 5 4	"	"	
1887, Jan. 19	III.		Ec. Reapp., first seen $\frac{1}{2}$ light full light	15 16 18.5 15 20 43.0 15 24 5.0	-1 35.5 "	"	
March 3	III.		Ec. Dissapp., light fading $\frac{1}{2}$ light last seen	12 57 20 13 1 20	"	"	
	III.		Ec. Reapp., first seen $\frac{1}{2}$ light full light	13 7 56.9 14 53 39.7 14 58 35 15 2 52	+3 44.9 -3 23.2 " "	"	
							Definition pretty good. Sky hazy. Pretty good.

Nov. 1888.

*of Jupiter's Satellites.*

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Sat.	Sat.	I.	Ec. Disapp., fading	Phenomena.	G. M. T. h m s	Corr. to N. A.	Observer. W. J. C.	Remarks.
					II 12 46.5	II 17 15.5	m	"
March 13					II 11 24 38.0	-0 23	"	Definition poor.
May 7	I.		Ec. Reapp., first seen ½ light	Io 13 7	Io 14 10	-0 7	W. C.	Definition good.
			full light	Io 16 0			"	
			Ec. Reapp., first seen Tr. Egress, last cont.	Io 13 24	+ 10	W. J. C.	"	Definition poor.
1888, Feb. 15	II.			18 11 8.7			"	
17	III.		Ec. Disapp., last seen	15 54 58	+ 1 56	W. C.	"	
			Ec. Reapp., first seen full light	17 23 32.0	-1 29	"	"	Unsteady.
				17 29 40		"		
			Ec. Reapp., first seen ½ light	17 23 35	-1 27	W. J. C.	"	Dancing.
			full light	17 26 6.5				
				17 28 43		"		
May 16	I.		Ec. Disapp., last seen	12 52 59	-0 9	W. C.	Good.	
21	II.		Tr. Ingress, ext. cont. bisection	11 57 30		"	"	Definition very bad.
			int. cont.	11 59 20				
				12 1 42		"		
			Tr. Egress, bisection last cont.	14 24 18		"	"	Definition poor. Un- steady.
				14 26 50		"		

		Sat.	Phenom.	G. M. T. h m s	Corr. to N. A. h m s	Observer. W. C.	Remarks.
May 24	III.		Tr. Egress, bisection last cont.	10 27 12			
	I.		Tr. Ingress, ext. cont. bisection	10 32 1		"	
	I.		int. cont.	11 44 49		"	
	I.		Tr. Ingress, bisection Ec. Reapp., first seen $\frac{1}{2}$ light	11 48 41		"	
25	I.			11 51 40			
	I.			11 48 40			
				11 23 33.5	-0 3.5	W. J. C. W. C.	Very poor. Dancing.
				11 25 32			
				11 27 44			
25	I.		Ec. Reapp., first seen	11 23 49.0	+0 12	W. J. C.	
June 17	I.		Ec. Reapp., first seen $\frac{1}{2}$ light	11 34 47	-0 14	W. C.	
				11 36 8	"		
				11 37 20	"		

The duplicate observations on May 7, 1887, and on February 17, May 24 and 25, 1888, were made by Mr. Crofton with the Alvan Clark 5½-inch refractor.

Observers: S. J. P., W. J. C., and W. C. are MM. Perry, Crofton, and Carlisle.

*Observations of Occultations of Stars by the Moon, taken at Stonyhurst. By the Rev. S. J. Perry, D.Sc., F.R.S.*

1886.	Phen.	Star.	G.M.T. h m s	Limb.	Observer.	Remarks.
Nov. 7	Disapp.	5 Ceti	6 0 40.1	Dark	W. C.	
1887.						
Feb. 6	Disapp.	3 Cancer	9 28 27.76	Dark	W. J. C.	Good
Mar. 8	„	$\rho$ Leonis	8 50 32.5	„	J. R.	Excellent.
„ 29	„	$\theta^1$ Tauri	9 12 1.2	„	W. C.	
„ 29	„	$\theta^2$ Tauri	9 19 8.8	„	„	
Apr. 2	„	B.A.C. 2731	8 56 4.3	„	„	
„ 25	„	48 Tauri	8 55 3.7	„	W. J. C.	
„ 25	„	„	8 55 4.1	„	W. C.	
Oct. 10	„	$\zeta^1$ Cancer	15 40 52.2	Bright	W. J. C.	
„ 10	„	„	15 40 52.2	„	W. C.	Poor: Limb tremulous.
„ 10	Reapp.	„	16 22 44.5	Dark	„	Good.
„ 10	„	$\zeta^2$ Cancer	16 22 50.7	„	„	Fair.
Nov. 6	Disapp.	$g$ Geminorum	10 30 18.4	Bright	„	
„ 6	Reapp.	„	11 5 24.5	Dark	„	
„ 20	Disapp.	B.A.C. 7209	5 35 16.7	„	„	
Dec. 27	„	75 Tauri	6 28 22.3	„	W. J. C.	
1888.						
Mar. 20	Disapp.	68 Orionis	10 15 47.1	„	W. C.	Pretty good.
„ 20	„	„	10 15 47.9	„	W. J. C.	
„ 20	Reapp.	„	11 20 48.9	Bright	W. C.	Fair.
May 20	Disapp.	$b$ Virginis	12 55 30.5	Dark	„	Very good.
„ 24	„	$\eta$ Libræ	10 50 49.6	Bright	„	* very faint, difficult.
Sept. 14	„	50 Sagittarii	10 52 3.9	Dark	W. J. C.	Thin clouds passing.
Oct. 13	„	20 Capricorni	7 4 35.7	„	W. J. C.	
„ 13	„	„	7 4 36.5	„	W. C.	

A dark screen was inserted in the eyepiece whenever the star was observed near the bright limb of the Moon. The observations of the Rev. W. J. Crofton were made with the  $5\frac{1}{2}$ -inch refractor of Alvan Clark, and Mr. W. Carlisle always observed with the Simms 8-inch equatorial.

*Note on the Occultation of  $\chi'$  Orionis, 1888, October 24.*  
By Rev. A. Freeman, M.A.

This was very well seen here. Star disappeared at  $9^h 2^m 8.02$  in a hollow of the Moon's bright limb, and reappeared almost instantly from behind the dark limb at  $9^h 55^m 26.56$ . Both times G.M.T. The chronometer had been